I. REMARKS

Claims 1-18 are in the case. Claims 1-3 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Published Application No. 2002 / 0032762 by Price. Claims 4-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Published Application No. 2002 / 0032762 by Price. Claims 8-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Published Application No. 2002 / 0032762 by Price in view of U.S. Patent No. 6,618,629 to Martens. Claims 7 and 8 stand further objected to as reciting improper antecedent basis requiring correction by amendment. The rejections are respectfully traversed.

V. Conclusion

In view of the foregoing, Applicant submits that all outstanding grounds of objection in the case have been overcome, and the application is now in condition for allowance. Reconsideration and withdrawal of the rejections, and allowance of all claims in the case at an early date, are respectfully requested.

No fees are believed to be due in association with instant response. However, the Commissioner is authorized to debit our Deposit Account No. 01-2511 for any underpayment of fees that are owed under 35 U.S.C. §§ 1.16 & 1.17.

Respectfully submitted,

Date: _August 20, 2004_   By: _Ray Ferrera_

Raymond R. Ferrera
USPTO Reg. No. 47,559
ARNOLD & FERRERA, L.L.P.
2401 Fountainview, Suite 630
Houston, Texas 77057
Telephone: (713) 972-1150
Facsimile: (713) 972-1180
ATTORNEY FOR APPLICANT

III. Rejections under 35 U.S.C. § 102

Claims 1-3 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Published Application No. 2002 / 0032762 by Price. The rejection is respectfully traversed.

A.   Summary of the present invention

An object of the present invention is to ensure that complex equipment satisfies the equipment's original engineering design requirements. The invention achieves this objective by completely and rigorously testing the equipment against the design requirements. There are two principal technologies that support this process – XML and CORBA.

Some test requirements are defined using XML as an associated markup language. The content of the test requirements document is controlled by a test requirements *schema*, which defines all the information necessary to define a complete and unambiguous test suite. An important aspect of the "test content" in this context (in addition to the content listed in the application), is that the test definition be written with respect to interfaces of the unit-under-test (UUT), not with respect to the interfaces of the test equipment.

There are two uses of the XML test requirements within the disclosed system. First, it is transformed into a human-readable format that maintains the properties of completeness and unambiguousness. Using this format, engineers can author and modify the content in accordance with the original design requirements. Second, the same XML document that defines the test requirements is used to generate a delimited test configuration file. It is the delimited test configuration file that actually controls test execution. By using a single source document to drive two discrete processes, the disclosed system ensures that the tests actually run on the UUT correspond to the tests the engineers authored.

In order to ensure that the test system is cost effective, it must be a general-purpose system, meaning that it must operate correctly irrespective of the limitations of any particular set of test requirements, and/or of any actual test equipment. The schema ensures that tests are defined independent of test equipment by relating a stimulus/response to a UUT interface, as opposed to having the test equipment generate the stimulus and response measurements.

The use of CORBA ensures that the system is capable of executing tests defined independent of the test equipment. For the system to accept tests without regard to the specific test equipment defining the system, each piece of test equipment must implement a carefully defined CORBA interface (sometimes referred to as "using CORBA IDL"). Using this interface, the system can identify the test equipment with specificity, identify which tests the system can perform, and then control it in the same fashion as any other piece of test equipment. The system test executive depends not on any actual test equipment, but on the common interface configurations shared by all test equipment.

The use of XML is unique in this context because it defines tests, test results, the order in which tests are carried out, and how to assess and manage resultant test failures. In short, the test requirements encode the dynamic behavior of the system. The use of XML is also unique in that a single XML test requirement document supports two very distinct processes – the first being the process by which engineers refine content to produce a valid test requirements document, and the second being the testing process itself.

The use of CORBA is unique because it permits modular and re-configurable test equipment to be employed rather than dedicated test hardware. As a result, any particular piece of test hardware can be replaced without changing any of the rest of the hardware components, and without modifying any of the test requirements documents.

B.   Summary of the Price Application

In contrast, the Price application discloses only a method of configuring networks of equipment, and appears to be used primarily for testing network equipment (*e.g.*, switches, routers, *etc.*). The Price configuration defines which machines will be included in the network, as well as the specific network topology and associated connection types. Such predefined configurations are known by those of ordinary skill in the art as *scenarios*. In application, a scenario is a predefined network description language, converted into an XML format so that it can be shared by a variety of applications that create, schedule and control the scenarios.

The schedulers (both global and local) ensure that a given scenario is implemented by issuing commands to the "specialized physical switching technologies" attached to each network. Commands sent to the specialized hardware then modify the topology and connection type to match the requirements of the scenario. Once scheduled, various tools can be employed to permit a particular scenario to be visualized and dynamically modified.

The XML of Price is used to define static aspects of the system, and to define the network's topology and connection types at the beginning of the test, or instead as the final configuration at the end of the test. The CORBA of Price is used as a communication channel to implement the information defined in the XML, taking advantage of the fact that CORBA transparently supports communication among disparate hardware members, operating systems and programming languages, as would likely occur in an actual test network. As with XML, the CORBA of Price appears to be used before or after the test, but not during.

C.   Distinguishing the present invention over Price

As discussed above, the present invention and the Price applications both contain the words "XML," "CORBA" and "configuration," but the structure and function of these technologies are very different in the two systems.

For example, the presently disclosed system assumes that the test equipment and the unit under test are physically arranged in a manner that will allow a test to execute, meaning that the unit under test, the test equipment, and their physical configurations are not defined. XML is used to encode the test definitions, which reflect the dynamic behavior of the system (as opposed to the static initial physical configuration of Price). Thus, the test definitions depend only on the unit under test, and are independent of the specific test equipment being employed.

In contrast, the Price system uses XML to define each of the network components and associated topology. While the Price system mentions the word "testing," the actual tests run in a given scenario are left undefined, and are therefore outside the scope of Price's disclosure. Again, the actual tests are not part of the application of XML in the system of Price; instead, XML is used to encode static information.

Further, the presently disclosed system uses CORBA to implement a modular, configurable, general-purpose test system. The use of CORBA IDL defines a common internal interface so that all test equipment must implement in order to be used as part of the system. CORBA IDL also defines the required functionality in the interface among various components, thereby allowing physical as well as logical hardware substitutions to be carried out.

In Price, CORBA is used solely as a mechanism to communicate between resource managers for the purpose of scheduling availability of various components of the system. The scheduling of a particular scenario is achieved by making use of the "specialized physical

switching hardware" attached to each organization's network. The application of CORBA does not include a standard internal interface, nor does it include the ability to substitute one type of hardware for another. Moreover, there is no mention of using CORBA IDL as a means of making the system modular.

D. Specific traversal of 35 U.S.C. § 102(e) claim rejections

1. Claim 1 (Rejection based on Price ¶¶ 36 & 37)

The phrase "general purpose test equipment system" in claim 1 seems to have been ignored in the Office Action. As discussed at length above, the system of Price specifically calls for defining and scheduling a configuration of equipment that will be used for testing. The resulting configuration, therefore, is plainly not a general purpose test equipment system, and thus the Price reference is simply incapable of anticipating the invention recited in independent claim 1. Price's hardware is not "test equipment," and the system of Price does not define a test. Moreover, the Price system cannot fairly be described as "general purpose," since "specialized physical switching technologies" are required, and CORBA and/or XML technologies are not used to make it general purpose in nature.

2. Claim 2 (Rejection based on Price ¶ 37)

Claim 2, as amended, now recites:

> A system as in claim 1 wherein the mark-up language enabled input is configured for acceptance of a delimited configuration file generates a machine-ingestible document appropriate for configuring and controlling test equipment.

With the amended language, citation of the description in Price paragraph 37 is no longer appropriate against the mentioned claim, inasmuch as Price fails to contemplate transformation of content to define tests and test sequences into formats appropriate for controlling test execution. Moreover, claim 2 depends from patentably distinct independent claim 1, and

therefore must also be distinct by virtue of implicit recitation of the "general purpose test equipment" limitation.

3.   Claim 3 (Rejection based on Price ¶ 37)

Again, rejection of claim 3 cannot be based solely on recitation of XML, since claim 3 depends on independent claim 1, which is patentably distinct over Price due to recitation of the phrase "general purpose test equipment."

IV. Rejections under 35 U.S.C. § 103

Claims 4-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Published Application No. 2002 / 0032762 by Price. Claims 8-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Published Application No. 2002 / 0032762 by Price in view of U.S. Patent No. 6,618,629 to Martens. Claims 7 and 8 stand further objected to as reciting improper antecedent basis requiring correction by amendment. The rejections are respectfully traversed.

A.   Summary of the Invention and the Price Application

A detailed discussion of both the dynamic general purpose test equipment system taught herein and the static model system of Price is set forth above, and incorporated by reference against the rejections pending in the case under 35 U.S.C. § 103(a).

B.   Summary of the Martens Patent

The Martens patent discloses a system and method of enhancing control of a circuit board processing line by interspersing SMEMA device emulators into the SMEMA communication stream between components disposed on the line. The emulators are transparent to existing equipment, but extract and relay information to a central control computer and respond to commands issued by the control computer. Thus, all system control features are directed by the central control computer.

In Martens, XML is used only to define the communication format between and amongst the control computer and the device emulators. Like Price, the XML content is fixed, and thus a predefined set of commands, responses and error messages is required.

C.   Distinguishing the present invention over Martens

As is true of both Price and the instant disclosure, Martens' patent contains the words "XML," "CORBA," and "configuration," but the structure and function of the systems employing those technologies differ greatly.

For example, the Martens system uses XML to communicate single commands and errors among system components. The actual definition of complex behavior (such as a test created according to the invention) is not part of the application of Martens' XML; rather, the XML appears to be hard-coded in the central control computer, is used strictly as a container for commands, and therefore does not define any dynamic behaviors.

D.   Specific traversal of the 35 U.S.C. § 103(a) claim rejections

1.   Claims 4-5 (Rejection based on *Official Notice*)

The rejections pending against claims 4 and 5 rely on *Official Notice* of the well-known prior existence of SGML and HTML, apparently based on the assumption that the presently disclosed system is a mere extension of Price, with SGML or HTML being substituted for XML. However, since claims 4 and 5 depend on patentably distinct independent claim 1 and therefore implicitly recite the "general purpose test equipment system" limitation, it follows that claims 4 and 5 must also be distinct as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988) ("If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious").

2.   Claim 6 (Rejection based on Price ¶ 37)

Price paragraph 37 makes no disclosure of any component described as having an XML interface "outputs configuration data," as suggested in the Action, and thus Applicant submits

that dependent claim 6 is patentably distinct without further qualification. However, irrespective of the purported teachings of Price as cited, dependent claim 6 is necessarily allowable under the doctrine of *In re Fine, supra.*

   3. Claim 7 (Rejection based on Price ¶ 66)

   Claim 7 is distinct over Price as cited because the human-readable document produced thereby is a performance specification rather than a static condition. The XML content being transformed to a human-readable format is of a very different nature in the two systems. In the presently claimed system, for example, the content specifies test requirements and their dynamic nature. In Price, the content specifies an existing network state. The network state may change, but such change necessarily results in a second XML document being transformed and rendered. In short, the change from one state to another is not encoded in a single document as in the presently claimed system, and thus one of ordinary skill in the art would not look to the reference for such a teaching even if a motivation or suggestion to do so were present (which is not the case). Moreover, by virtue of its dependence on intervening dependent claim 6, claim 7 (as amended) is also necessarily allowable under the doctrine of *In re Fine, supra.*

   4. Claim 8 (Rejection based on Price ¶ 46)

   In Price, a scheduling request is simply a request that a given subset of machines be made available at some point in time. There is no definition of how the request is related to other potential requests with respect to the order in which the schedules might be realized. To the contrary, it appears that in Price the ordering of multiple requests is hard-coded into the software that implements the global/local schedulers. Thus, there is no external definition of temporal ordering, and one of ordinary skill in the art would therefore not look to the reference for such a

teaching. Moreover, by virtue of its dependence on intervening dependent claim 6, claim 8 (as amended) is also necessarily allowable under the doctrine of *In re Fine, supra.*

5.   Claim 9-13 (Rejection based on prior rejections)

Claims 9-13 were rejected based solely upon their relationship to claims 1-8, which stand rejected under the Action. In view of the foregoing traversal of rejections pending against claims 1-8, however, Applicant submits that claims 9-13 are allowable by similar reasoning.

6.   Claim 13 (Rejection based on prior rejections)

In addition, Claim 13 has been amended to recite:

> A method as in claim 9 further comprising generating a human-readable document dependent upon said entering from the same XML source document used to generate the delimited configuration file.

Since neither the Price application nor the Martens patent employ a single mark-up language enabled input capable of generating two discrete formats having distinctly different functionality, it follows that dependent claim 13, as amended, is distinct over the references as cited and should therefore be allowed.

12.   Claims 14-18 (Rejection based on prior rejections)

Similarly, claims 14-18 were rejected solely based upon their relationship to claims 9-13, which stand rejected under the Action. However, in view of the foregoing traversal of rejections pending against claims 9-13, Applicant submits that claims 14-18 are allowable by virtue of similar reasoning.